

### **REMARKS**

Claims 1-60 are pending in the application. Claims 1-60 stand rejected. Independent claims 1, 25, 31, and 55 are being amended. Independent claims 25 and 55 are being amended to transmit digital signals, as illustrated at least in Fig. 24 "Sout." Accordingly, Applicants respectively submit that no new matter is being introduced by way of amendments to the claims.

In part 1 of the Final Office Action, the independent claims, claims 1, 25, 31, and 55, are being substantially reverted back to their form as originally filed. Therefore, Applicants address rejections of both the first Office Action and the present Final Office Action herein.

In part 2 of the Final Office Action, a rejection under 35 U.S.C. 112 first paragraph was withdrawn for being directed to a single means claims. In anticipation of the rejection being raised responsive to the amendments being made to claims 1, 25, and 55 in the Claim Listing above, Applicants respectively submit that these claims should not be subject to an undue breadth rejection, apparently as provided by MPEP 2164.08(a). MPEP 2818(I) sets forth requirements for a claim to be a "means" claim. Specifically, the claim elements must use the phrase "means for" or "step for," the "means for" must be modified by functional language, and the "means for" must not be modified by sufficient structure. However, none of claims 1, 25, or 55 include the "means for" language and, consequently, are not "means" claims.

In part 3 of the Final Office Action, a rejection of claims 55-60 under 35 U.S.C. 101 was maintained because claim 55 was said not to have a useful, tangible, and concrete result. Applicants respectfully submit that claim 55, and corresponding claim 25, are being amended to transmit digital signals to a device to produce a corresponding audible signal. Accordingly, Applicants respectfully submit that the rejection of claim 55, and corresponding claim 25, is now overcome. Applicants respectfully request the rejection be withdrawn.

In part 4 of the Final Office Action, claims 1-24 and 55-60 were rejected to because of informalities in claims 1 and 55. Based on the amendments being made to claims 1 and 55 in the Claim Listing above, Applicants respectfully submit that the objections are overcome and respectfully request withdrawal of same.

In parts 5 and 6 of the Final Office Action, claims 1-30 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which Applicants regard as the invention. Based on amendments made to claims 1 and 25 in the claim listing above, Applicants respectfully submit that the rejections to claims 1-30 under 35 U.S.C. 112, second paragraph are overcome. Accordingly, Applicants respectfully request withdrawal of the rejection.

In parts 7 and 8 of the Final Office Action, claims 55-60 were rejected under U.S.C. 101 because the claimed invention was said to be directed to non-statutory subject matter. As described above, Applicants respectfully submit that the rejection is overcome based on amendments being made to claim 55. Accordingly, Applicants respectfully request the rejection be withdrawn.

In parts 9 and 10 of the Final Office Action, claims 1-6, 10-11, 15, 24, 31-36, 38, 40-41, 45, and 54 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen et al. (U.S. Patent No. 5,946,651) ("Jarvinen") in view of Yajima et al. (U.S. Patent No. 5,873,058) ("Yajima").

Claim 1 is being amended to revert it substantially back to its form as originally filed. Accordingly, the rejection under 35 U.S.C. 103(a) of the Final Office Action likely reverts back to a rejection under 35 U.S.C. 102(e) as being anticipated by Jarvinen as found in part 7 of the first Office Action mailed on June 8, 2006. However, Applicants will address each of the rejections in turn below.

Claim 1 as amended in the Claim Listing above recites,

a processor responsive to said digital signals ... to generate at least a first parameter value..., responsive to said digital signals and said first parameter value to generate adjusted first parameter value representing an adjustment of said first characteristic; and responsive to said adjusted first parameter value to derive an adjusted first parameter and to replace said first parameter with the adjusted first parameter.

These elements of claim 1 provide a form of feedback of the adjusted first parameter value to derive, in part, an adjusted first parameter to overcome possible sub-optimality of previously known approaches for calculating Speech Level Related Parameters (SLRPS), such as in a system configured as illustrated in Applicants' Figure 12 and described in the specification as originally filed on page 26, line 19 through at least page 28, line 6 in reference to Figures 12-14. Specifically, and as described beginning on page 27, line 10 of Applicants' specification as originally filed, in reference to Figure 13, "to overcome the overflow/underflow problems, the iterative scheme of Figure 13 can be incorporated in the Gain Determination block." Further, in

the paragraph bridging pages 27 and 28, second sentence, Applicants further describe, “the gain that is fed back should be realized gain after the SLRP re-quantization process, not the desired gain.” As illustrated in Figure 14 and stated in lines 2-4 of page 28, “if the desired gain was used in the feedback loop instead of the realized gain, the controller would not be tracking the actual decoded speech signal level, resulting in erroneous level control.” The iterative scheme for overflow/underflow prevention of Figure 13 may also be incorporated into the Gain Determination block of Applicants’ Figure 14. Thus, claim 1 as currently amended in the Claim Listing above describes a technique for feeding back an “adjusted first parameter value to derive an adjusted first parameter and to replace the first parameter with said adjusted first parameter.”

Jarvinen, as properly characterized in the Final Office Action in part 10, page 7, does not teach the concept of adjusting a gain parameter over a network prior to reception at a receiver. Jarvinen as illustrated in Fig. 4 uses parameters, such as a gain parameter, to adjust gain (ref. no. 414) to adjust generation of a signal that is converted to audio. Jarvinen does not disclose a technique “to replace said first parameter with said adjusted first parameter,” as recited in Applicants’ amended claim 1.

Yajima describes a voice coding and transmission system with silence elimination. As described by Yajima in column 28, lines 48-54, “when a voice signal with a large gain value is input to the encoder 106, the unstable system causes sudden divergence of the gain value and produces abnormal sounds, such as 'Gya' or 'bu' (phonetic)”. One of the methods for preventing such abnormal sound is to moderate the divergence rate by attenuating the gain value of a voice signal input to the unstable coding/decoding system. Yajima further describes in column 20, lines 57-60 that, “it is possible to suppress abnormal sound due to divergence of the system by setting an attenuated gain value so that the divergence rate is sufficiently more moderate than the convergence rate.” Yajima sets the attenuated gain value based on transitions between different modes of operations, including from a voice state to a silence state, from a silence state to a voice state (“talk spurt detection”), and from a voice state to another voice state, as illustrated in a plot in Yajima, Fig. 2. In column 29, lines 27-40, Yajima describes that his voice coding-and-transmission system avoids abnormal sound by suppressing gain in the transient. As described by Yajima, immediately after start of voicing, abnormal sound may occur, which is the biggest act of voice quality degradation. By doing so, Yajima states that, “it is possible to avoid quality degradation and fully realize the performance of the high-efficiency voice coding system.”

Thus, Yajima does not employ any feedback technique as claimed by Applicants in amended claim 1. Instead, Yajima provides an open-loop system for setting gain, or other parameter, to improve his system performance based on transition between voice states.

Accordingly, a combination of Jarvinen and Yajima does render Applicants' claim 1 obvious because Jarvinen would not seek to employee improvements as described by Yajima because Jarvinen is synthesizing speech at a listener's device, such as a cell phone. Furthermore, Yajima would not seek to employ the teachings of Jarvinen because Yajima is deployed in a middle of a network to improve speech as described above. Moreover, since Jarvinen is not replacing adjusted parameters, Jarvinen does not anticipate Applicants' claim 1 as currently amended. Moreover, for reasons described above with reference to Yajima's not being an open-loop system that changes gain, or other parameter, based on transitions between voice states, Yajima does not anticipate the closed-loop system as claimed in Applicants' amended claim 1 in which Applicants' processor is "responsive to said adjusted first parameter value to derive an adjusted first parameter and to replace said first parameter with said adjusted first parameter."

Accordingly, for the foregoing reasons, Applicants respectfully submit that neither Jarvinen nor Yajima, either alone or in combination, teaches Applicants' claim 1 as now amended. Further, Yajima, in fact, teaches away from Applicants' invention as claimed in amended claim 1. Thus, Applicants respectfully submit that the rejections under 35 U.S.C. 102(e) is overcome and respectfully request that the rejections be withdrawn. Further, for the foregoing reasons, Applicants respectfully submit that rejections under 35 U.S.C. 103(a) based on a combination of Jarvinen and Yajima is also overcome and respectfully request that the rejections be withdrawn with respect to amended claims 1 and 31.

Because claims 2-6, 10, 11, 15, 20 and 24 depend from amended claim 1 and claims 32-36, 38, 40, 41, 45, and 54 depend from amended claim 31, Applicants respectfully submit that these claims should be allowed for a least the same reasons as the base claims from which they depend.

In part 11 of the Final Office Action, claims 8, 9, 12, 16, 18, 20-23, 39, 42, 46, 48, and 50-53 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen in view of Yajima, and further in view of Yasunaga et al. (U.S. Patent No. 6,330,534) ("Yasunaga"). Because these claims depend from base claims 1 and 31, these claims should be allowable for a

least the foregoing reasons. Therefore, Applicants respectfully request withdrawal of the rejections of these claims.

In part 12 of the Final Office Action, claims 7 and 37 were rejected under 35 U.S.C. 103 (a) as being unpatentable over Jarvinen in view of Yajima, in view of Yasunaga, and further in view of Crouse et al. (U.S. Patent No. 4,899,384) ("Crouse"). Because claims 7 and 37 depend from base claims 1 and 31, these claims should be allowable for at least the same reasons as the base claims from which they depend.

In part 13 of the Final Office Action, claims 13-14, 17, 19, 43-44, 47, and 49 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jarvinen in view of Yajima in view of passing Yasunaga, and further in view of Swaminathan et al. (Patent No. 5,751,903). Because these claims depend from amended base claims 1 and 31, these claims should be allowed for at least the same reasons as the base claims from which they depend.

In part 14 of the Final Office Action, claims 25-27 and 55-57 were rejected under 35 U. S.C. 103(a) as being unpatentable over Yajima in view of Kwan (U.S. Patent No. 6,504,838).

Claims 25 and 55 are being amended to revert substantially back to their form as originally filed. Therefore, Applicants respectfully submit that the rejection under 35 U.S.C. 103(a) should likewise revert back to the rejection under 35 U.S.C. 102(b) as being anticipated by Yajima, as set forth in the first Office Action.

With regard to independent claims 25 and 55, and their respective dependent claims, independent claims 25 and 55 recite, in part, "adjusting said first bits and said second bits," where said first bits use a compression code and the second bits use a linear code. Use of a combination of a compression code and linear code may be referred to herein as a "hybrid coded/linear format," such as in the case of transmitting speech in a legacy system that employs time division multiplexing (TDM) with eight bit slots in which the speech is represented, for example, with two bits of a coded domain signal and six bits of a pulse code modulation (PCM) signal. Because Yajima does not disclose a system in a hybrid coded/linear format network, Applicants respectfully submit that Yajima cannot anticipate Applicants' claims as amended in claims 25 and 55.

Because claims 26 and 27 depend from claim 25 and claims 56 and 57 depend from claim 55, these claims should be allowed for at least the same reasons as the base claims from which they depend.

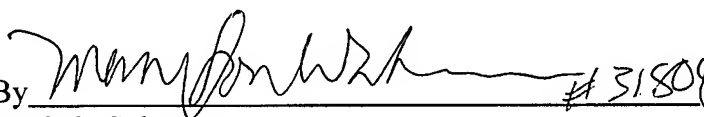
In part 15 of the Final Office Action, claims 28-30 and 58-60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yajima in view of Kwan, and further in view of Navaro et al.(U.S. Patent No. 6,108,560). Because these claims depend from now amended base claims 25 and 55, Applicants respectfully submit that these claims should be allowed for at least the same reasons as the base claims from which they depend.

### CONCLUSION

In view of the above amendments and remarks, it is believed that all claims, claims 1-60, are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By  #31809  
Sr Mark B. Solomon  
Registration No. 44,348  
Telephone: (978) 341-0036  
Facsimile: (978) 341-0136

Concord, MA 01742-9133

Date: 8/15/09